

December 17, 1998 F/SWC2:JRH:FLF  
CR9812-5.JRH

### CRUISE REPORT

**VESSEL:** *Townsend Cromwell*, Cruise 98-12 (TC-238)

**CRUISE PERIOD:** October 28-November 24, 1998

**AREA OF OPERATION:** French Frigate Shoals (FFS) (Figure 1)

**TYPE OF OPERATION:** Participate in multi-agency effort to survey and remove marine debris on nearshore reefs at French Frigate Shoals

#### ITINERARY:

October 28 - Embarked Dominique Aycock, Hannah Bernard, John Henderson, Scott Johnson, George Moen, Robert Pickett, and Nina Young. Departed Honolulu 1000.

October 30 - Arrived French Frigate Shoals 1500. Disembarked Aycock to Tern Island. Commenced off-loading equipment.

October 31 - Embarked Ray Boland from USCGC *Kukui* and Rick Steiner from Tern Island. Completed offloading equipment. Commenced debris surveys, retrieval, and analysis.

November 5 - Disembarked Steiner to Tern Island.

November 6 - Disembarked Bernard, Henderson, Johnson, Moen, and Young to *Kukui*.

November 12 - Departed FFS for Brooks Bank, 0900. Arrived Brooks Bank 1200 and commenced acoustic and sonar survey for stationary mooring.

November 13 - Continued mooring survey. Departed Brooks Bank for FFS 1100. Arrived FFS 1500.

- November 14 - Resumed debris surveys and removal.
- November 21 - Embarked Zoltan Horvath, Cody Martz, Julie Rocho, and Ashley Traut. Departed FFS for Honolulu 1600.
- November 24 - Arrived Honolulu 2000. Disembarked Boland, Horvath, Martz, Pickett, Rocho, and Traut. End of cruise.

#### **MISSIONS AND RESULTS:**

- A. To survey for and remove nets and other potentially entangling debris from nearshore reefs.
1. Approximately 13.8 km<sup>2</sup> of inshore reef were surveyed and cleared of marine debris.
  2. A large net was partially removed from Little Gin Island.
  3. Approximately 7,500 kg of derelict nets and lines were removed.
- B. To establish study sites for research on debris accumulation rates and impact on reefs.
- A study site to the northeast of Tern Island was delineated and cleared of all debris. A comparable area adjacent to the cleared site was not cleared, with several nets left in place.
- C. To service and upgrade a remote data sensor moored at Brooks Bank.
- The remote, subsurface sensor was contacted acoustically, but could not be detected on ship's sonar. The unit was not serviced.

#### **SCIENTIFIC PERSONNEL:**

John R. Henderson, Chief Scientist (October 28-November 6),  
National Marine Fisheries Service (NMFS), Southwest  
Fisheries Science Center (SWFSC), Honolulu Laboratory (HL).  
Raymond Boland, Chief Scientist (November 7-24), Joint Institute  
of Marine and Atmospheric Research (JIMAR)  
Dominique Aycock, Cooperating Scientist, U.S. Fish and Wildlife  
Service (USFWS)  
Hannah Bernard, Cooperating Scientist, Hawai'i Wildlife Fund  
Zoltan Horvath, Cooperating Scientist, USFWS  
Scott Johnson, Fishery Biologist, Alaska Fisheries Science  
Center, Auke Bay Laboratory

Cody Martz, Cooperating Scientist, USFWS  
Rick Steiner, Cooperating Scientist, University of Alaska Sea  
Grant Marine Advisory Program  
Julie Rocho, Cooperating Scientist, USFWS  
Ashley Traut, Cooperating Scientist, USFWS  
Nina Young, Cooperating Scientist, Center for Marine Conservation

Submitted by: \_\_\_\_\_  
John R. Henderson  
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Approved by: \_\_\_\_\_  
R. Michael Laurs  
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Attachment